Work Orden				*109	9457*						Page 1	l.·
Item ID: Revision ID:	D3139-1			Accept	*N900	040	100)* s	Setup Sta	IV	S1*	
Item Name:	Guard								Sto	$_{ m bb}$ $*N$	S2*	
Start Date: Required Date: Reference:	11/21/13	Start Qty: 4.00 Req'd Qty: 4.00	*4* *4*		Cust Item II Customer:	D:						
Approvals:	Process P	lan: MLゴ	Date: 13-11-25	Tooling:	Da	ite:	_	F	Run Sta	rt *N	R1*	: :•
				SPC (Y/N):		ite:			Ste	^{op} *N	R2*	
Sequence ID/ Work Center I	D	Operation Description	escription		Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	
Draw Nbr	Re	evision Nbr										+
D3139	Re	ev C										
100		FLOW WATER JET		0.00				4	Ø		Ac	_
Waterjet FLOW CNC Water	jet	Memo 1-Cut as per Dwg Rev:_ Prog Rev:_ 2-Deburr if	<u>c</u>	0.00							13.12	.0
110		QC2- Inspect parts off n	nachine FAI/FAIB	0.00				.1			1	•
110 QC		Memo	narts off machine	0.00				_9			13·12	

1) Inspect parts off machine

2) Complete FAI

Quality Control

DQA:	Date: WORK ORDER NON-CONFORMANCE / UPDATE										
QA Closed:	Date:		WORK ORDER NOR			MVIAIGE / OI		Vork Order up	date only	AEROSPACE	
Work Order:			DISPOSITION				AGAINST D	EPARTMENT,	PROCESS		
Part No			Rework Scrap Use-as-is Suspected Unapproved			Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite		Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other	
Root		De		T^{\prime}	nitial	Acti	on	Sign &			
i	ate Step	Qty	or non-conformance		ief Eng			Date Verification		QC Inspector	
Design Doc/Data Equip/Tooling Handling/Pre Material Operator Offset/Setup Process Supplier Training Transport Unapproved											
				FA	ULT CA	TEGORY					
Crac Crim Cuff Crus Hea Insp Mar	tre Not Concer cks np/Kink/Ripple	/Wave Tube	BOM/Route Grain Over/U Broken/Damage/Defect Hardware Part Inspection Incomplete/Unqualified Part Lo Contamination Instructions Incomplete/Unclear Part M Countersink Misaligned/off center Positio					Outside Dim Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	tolerance ct ssing Vrong	Pressure/Forced Set-up Temperature/Cure Weld Wrong Stock Pulled Other	

25.2				
T T	7	\sim 1	TT	109457
11	$/ \cap r \mid r$	IRAA		111445/
71	UIR	Oluc	1 117	エリノマン/

109457

Page 2

November-21-13 2:28:17 PM

Item ID: Revision ID: Item Name:	D3139-1 Guard				Accept	*N900	040	100)*	Setup	Start Stop	1/1	S1*	
Start Date: Required Date: Reference:	11/21/13	Start Qty: Req'd Qty:		*4* *4*		Cust Item 1 Customer:	D:					14		3
Approvals:	Process Pla	n:	Date:		Tooling: SPC (Y/N):		ate:			Run	Start Stop	*N *N	R1* R2*	t me symbol to the
Sequence ID/ Work Center II	D	Operation Description			Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accep Qty	t Rej Qty		Reject Number	Insp. Stamp	1
*120 *120* QC Quality Control			arts - second check		0.00				84				13/12/e	, 23,
125 *125* HandThermo Hand Finishing The	rmoforming		emo ill & Countersink as	per Dwg.	0.00				× 7				Oh. 13/12/e	ゞ゚

DQA:	WORK ORDER NON-CONFORMANCE / UPDATE												
QA Closed:			Date:			WORK ORDER NON-	-CC	ONFO	RMANCE / UI		/ork Order up	odate only	AEROSPACE
						DISPOSITION					EPARTMENT,		
Work Orde	er: .					D 4.	,		sum and	C	٦	Matan late	7
Doet N	مام					Rework			Skid-tube Machining	Crosstube Small Fab	- Pro	Water Jet d. Eng. Coor.	Engineering Quality
Part N	NO.					Scrap Use-as-is			noforming	Finishing		re/Packaging	Other
NCR N	No.					Suspected Unapproved		inen	Large Fab	Composite		Supplier	
	-		i i		D				1 6		C: 0	· I	1
Root		Data	Chan	O4	Desci	ription of work order update	1	Initial	Act		Sign &	\/a=ifiaatia=	OC Imamastan
Cause		Date	Step	Qty		or non-conformance	Cn	ief Eng	Descr	iption	Date	Verification	QC Inspector
Design Doc/Data	-	•											·
Equip/Tooling							ĺ						
Handling/Pre	_		,										
Material									1				
Operator							l						
Offset/Setup													
Process			ļ										
Supplier													
Training											·		
Transport	Г												
Unapproved				ļ	,								
							FA	ULT CA	TEGORY				
Landi	ng (Gear				General				_	_		<u></u>
		Bending				Bend	Ĺ	Folio/I	Program		Outside Dim	ensions	Pressure/Forced
		Centre No	ot Concer	ntric		BOM/Route		Grain			Over/Under	tolerance	_Set-up
		Cracks Broken/Damage/Defect Hardware							Part Incorre	cí _	Temperature/Cure		
	Crimp/Kink/Ripple/Wave					Burrs	L	Inspect	ion Incomplete/Ur	nqualified	Part Lost/Mi	issing	Weld
		Cuffs			Contamination Instructions Incomplete/Unclear					Part Moved		Wrong Stock Pulled	
		Crushing				Countersink		4	gned/off center		Positioned V	· ·	_
		Heat Trea				Cut Too Short		Mislab		_	Power Loss/	Surge	Other
						Drawing		Misrea					
	\vdash					Drill Holes		Off-set					
:	L	Turning S				Finish	Out of Calibration						
		Wave/Tw	ist in Tub	oe -		Fit/Function		Out of	Sequence				

Work Order ID 109457	Wo	rk	Orde	er ID	1094	57
----------------------	----	----	------	-------	------	----

109457

Page 3

November-21-13 2:28:17 PM

NOVEINDEI -21-1.	2.20.1711	<u> </u>									
Item ID: Revision ID:	D3139-1			Accept	*N900	040	100)* s	etup Star Stoi	ı VI .	S1*
Item Name: Start Date: Required Date: Reference:	Guard 11/21/13 11/21/13	Start Qty: 4.00 Req'd Qty: 4.00	*4* *4*		Cust Item I Customer:	D:			·	"IN;	S2*
Approvals:		in:		Tooling: SPC (Y/N):		ate:		R	tun Star Sto _l	171	R1* R2*
Sequence ID/ Work Center I	D	Operation Description Line Bender	•	Set Up/ Run Hours 0.00	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 Thermoform Thermoforming Ma	achine	heat till slig Using Bend to cool for 1 2) Place the edge. Heat t till soft. In	htly soft & flip over on ing tool DT 9694 bend minute bent angle down on the he plastic at this location sert bent end into bend d, close the lid and ber	0.00 wide part near holes, centered ce to heat opposite side the softenen plastic to 90 deg ne short side of the line bender on till slightly soft and flip to ing jig DT 9694 in the opposite the plastic upward to 90 deg	and push to the opposite side te direction of			<u> </u>			13/12/03
140 *140* QC Quality Control		QC2- Inspect parts off m Memo Inspect and	nachine FAI/FAIB	0.00				-X4			13/12/03

DQA:			Date:												
						WORK ORDER NON-	-CC	ONFO	RMANCE / UPDAT				AEROSPACE		
QA Closed:			Date:							Wo	ork Order up	date only			
Work Orde	ır.					DISPOSITION			AC	GAINST DE	PARTMENT	PROCESS			
WORK OTAL	•					Rework			Skid-tube Cro	osstube		Water Jet	Engineering		
Part N	lo.					Scrap			 - 	nall Fab	Pro	d. Eng. Coor.	Quality		
	•					Use-as-is			- -	inishing		re/Packaging	Other		
NCR I	No.					Suspected Unapproved			Large Fab Con	nposite		Supplier			
Root					Desci	ription of work order update		nitial	Action		Sign &				
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Description	<u> </u>	Date	Verification	QC Inspector		
Design															
Doc/Data															
Equip/Tooling			i			·	1								
Handling/Pre															
Material						•									
Operator															
Offset/Setup															
Process															
Supplier															
Training		i													
Transport Unapproved	\vdash														
Ollappioved			<u> </u>				FΔI	III T CA	TEGORY		l		<u> </u>		
Landi	ng (Gear				General	.,,,								
	Ŭ	Bending				Bend		Folio/F	Program		Outside Dim	ensions	Pressure/Forced		
		Centre No	ot Concer	ntric		BOM/Route	Г	Grain			Over/Under		Set-up		
		Cracks				Broken/Damage/Defect		Hardwa	are		Part Incorred		Temperature/Cure		
		Crimp/Kir	nk/Ripple	/Wave		Burrs		Inspect	ion Incomplete/Unqualif	fied	Part Lost/Mi	ssing	Weld		
		Cuffs				Contamination		1	tions Incomplete/Unclear		Part Moved		Wrong Stock Pulled		
		Crushing				Countersink		Misali	gned/off center		Positioned V	Vrong			
		Heat Trea	it			Cut Too Short		Mislab	eled		Power Loss/:	Surge	Other		
		Inspection	n Strip in	Tube		Drawing		Misrea	d						
		Marks/Ch	natter			Drill Holes		Off-set							
		Turning S	equence			Finish		Out of	Calibration						
		Wave/Tw	ist in Tub	e		Fit/Function	Out of Sequence								

Work Order ID 109457

109457

Page 4

November-21-13 2:28:17 PM

November-21-13	2.20.1/11	·1								
Revision ID:	D3139-1 Guard	-		Accept	*N900	<u>04</u> 010	n * s	Setup Star Stop	IV.	S1* S2*
	11/21/13	Start Qty: 4.00 Req'd Qty: 4.00	*4* *4*		Cust Item II Customer:	D:				
Approvals:		an:		Tooling: SPC (Y/N):		ite:		Run Star Stop	, "I V I	R1* R2*
Sequence ID/ Work Center II 150 *150* QC Quality Control	D	Operation Description QC5- Inspect part comple	eteness to step on W/O	Set Up/ Run Hours 0.00 27 0.00 27 0.00 27	Tool ID	Tool # Plan Code	_	Reject Qty	Reject Number	Insp. Stamp
*160 *160* Packaging Packaging		Identify as per dwg & Sto	Stud7	0.00			_(_	Y 134	14/3	DAS 32 9-89
170 *170* QC Quality Control		QC21- Final Inspection -	· Work Order Release	0.00				13	12/4	

A13-12-4

DQA:			Date:										
QA Closed:			Date:			WORK ORDER NON-	-CC	ONFO	RMANCE / UPDA		ork Order up	date only	AEROSPACE
QA Closed.			Date.				_		1 - 1		·•		
Work Orde	er:					DISPOSITION			A	AGAINST DE	PARTMENT,	PROCESS	
	•					Rework			Skid-tube Cr	rosstube		Water Jet	Engineering
Part N	lo.					Scrap			Machining Sr	mall Fab	Pro	d. Eng. Coor.	Quality
	•					Use-as-is		Therr	~ -	inishing	Rec/Stor	e/Packaging	Other
NCR N	10.					Suspected Unapproved			Large Fab Co	mposite		Supplier	
Root					Desci	ription of work order update		nitial	Action		Sign &		
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Descriptio	n	Date	Verification	QC Inspector
Design	Ц												
Doc/Data	_												
Equip/Tooling	_												
Handling/Pre	_												
Material	\dashv												
Operator													Ì
Offset/Setup	_	-											
Process													
Supplier	Щ											:	
Training													
Transport													
Unapproved									TECODY				<u> </u>
1							FA	ULI CA	TEGORY			***	
Landi		1				General Bend	_	احمانما	Dagasam		Outside Dim	:	Pressure/Forced
		Bending	at Canson	atria		BOM/Route	\vdash	Grain	Program	-	Over/Under	├	Set-up
	——————————————————————————————————————					Broken/Damage/Defect	┢	Hardwa			Part Incorred	<u> </u>	Temperature/Cure
	_	Crimp/Kir	k/Pinnla	Mayo	\vdash		⊢	1	are tion Incomplete/Unquali	ified	Part Incorrec		Weld
	-	Cuffs	IN KIPPIE	e/Wave Burrs Contamination				1	tions Incomplete/Unclea		Part Moved	-	-
	$\overline{}$	Crushing				Countersink	\vdash	4	gned/off center	aı	Positioned V	/rong	Wrong Stock Pulled
	_	Heat Trea	ıt.		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Cut Too Short	\vdash	Mislab	=		Power Loss/	_	Other
	\vdash	Inspection		Tube		Drawing	-	Misrea		<u> </u>	1. OMEL 1033/		Totalei
	\vdash	Marks/Ch	-	iube	 '	Drill Holes	Off-set						
	Turning Sequence Finish						Out of Calibration			·· ······			
	Wave/Twist in Tube					Fit/Function	Out of Calibration Out of Sequence						
	I	1 / 1 11				1. 19 . 4.100		10000					

Work Order ID:

109457

Parent Item:

D3139-1

Parent Item Name:

Guard

Start Date: 11/21/13

Required Date: 11/21/13

Page 1

Start Qty: 4.00

Required Qty: 4.00

Comments:

IPP Rev. A New Issue Form In-house 10/11/19 DL verf:DD

IPP Rev. B Water jet Added

10/11/24 DL

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MLEXS.125-9034-01 1/8" 9034 Lexan Sheet		Purchased	No			100	sf	131.5000	0.125	< 0.5263156	Ae	13.	12.0
				Location		Loc Qty	<u>Lo</u>	c Code					
				MAT018		131.5						2 2)
				1250	052	131.5			12	5052	\longrightarrow	.53	•

DQA:			Date:											
						WORK ORDER NON-	-CC	NFO	RMANCE / UPDATE			-	AEROSPACE	
QA Closed:			Date:							Wo	ork Order up	date only		
Work Orde	r.					DISPOSITION			AGAINST	DE	PARTMENT	PROCESS		
i voik oide	٠				_	Rework			Skid-tube Crosstube] ,	Water Jet	Engineering	
Part N	o.					Scrap			Machining Small Fab	_	Pro	d. Eng. Coor.	Quality	
	•			<u>.</u> .		Use-as-is			noforming Finishing		1	e/Packaging	Other	
NCR N	lo.	-				Suspected Unapproved			Large Fab Composite			Supplier		
Root					Desci	ription of work order update		nitial	Action		Sign &			
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Description		Date	Verification	QC Inspector	
Design														
Doc/Data	4													
Equip/Tooling	ᆜ													
Handling/Pre	4	·												
Material	\dashv					•								
Operator													i	
Offset/Setup Process	\dashv				i	•	·							
Supplier	\dashv													
Training														
Transport	\neg						1						·	
Unapproved			į											
							FAI	ULT CA	TEGORY					
Landir	ng G	Gear				General		•			-	<u></u>		
		Bending				Bend		Folio/F	Program	L	Outside Dim	ensions	Pressure/Forced	
		Centre No	ot Concer	ntric		BOM/Route	<u> </u>	Grain		L	Over/Under	tolerance	Set-up	
	Cracks Broken/Dam							Hardwa			Part Incorred	<u> </u>	Temperature/Cure	
	Crimp/Kink/Ripple/Wave Burrs						<u></u>	1 '	ion Incomplete/Unqualified	<u> </u>	Part Lost/Mi	ssing	Weld	
		Cuffs				Contamination	<u> </u>	4	tions Incomplete/Unclear	_	Part Moved	Ļ	Wrong Stock Pulled	
	-	Crushing				Countersink	_	4 '	gned/off center		Positioned V		¬⊶.	
		Heat Trea			<u> </u>	Cut Too Short		Mislab			Power Loss/	Surge	Other	
		Inspectio		Tube	_	Drawing	-	Misread						
	-	Marks/Ch			-	Drill Holes	Off-set							
						Finish	Out of Calibration							
	1	Wave/Tw	ist in Tub	oe -		Fit/Function	L	Out of	Sequence					

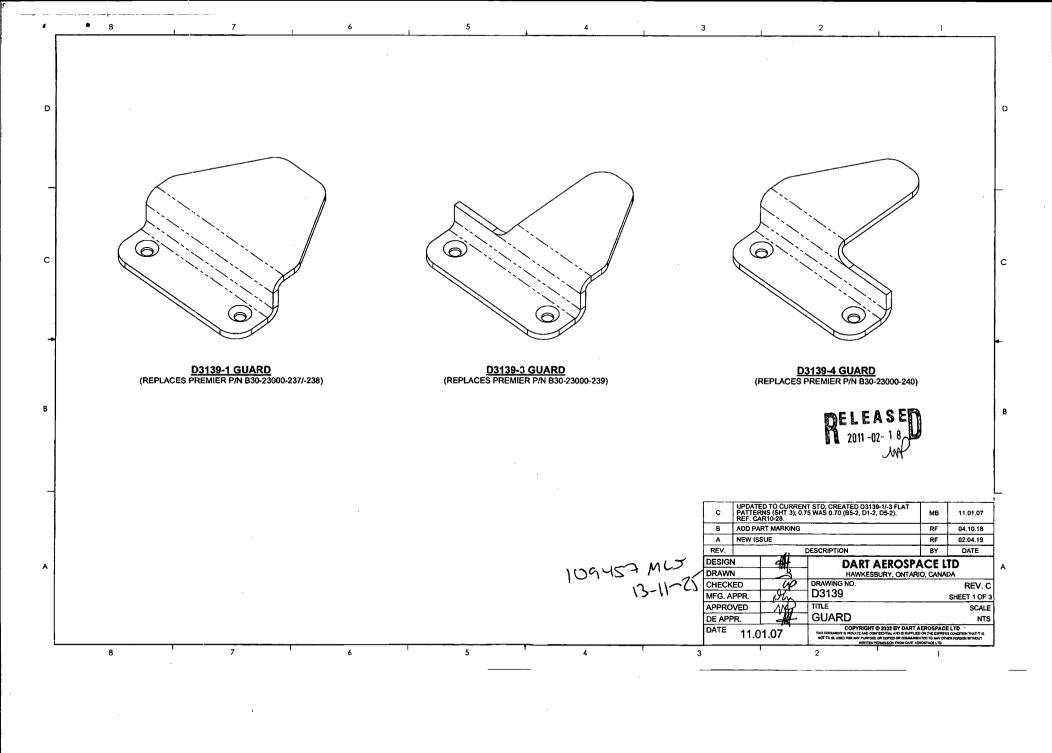
DART AEROSPACE LTD	Work Order:	109457	
Description: Guard	Part Number:	D3139-1	
Inspection Dwg: D3139 Rev: C		Page 1 of 1	

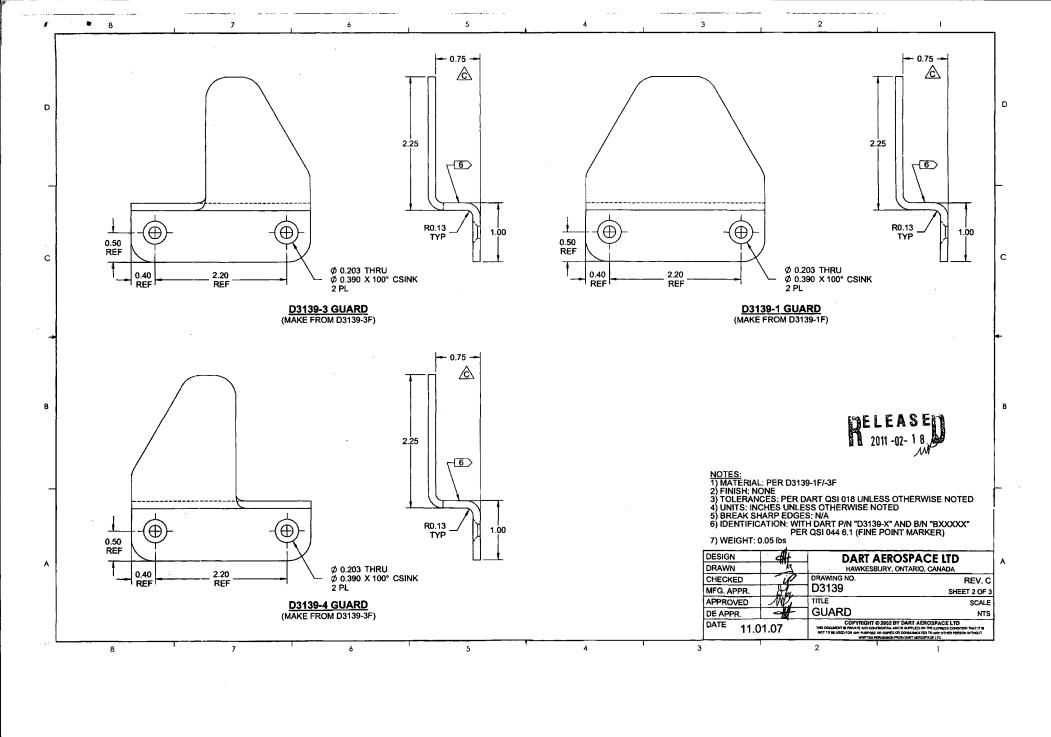
FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.098	+0.004/-0.001	.102	-		V	JKM-05
0.500	+/-0.010	,500	_		V	
2.06	+/-0.030	2.06	_		✓	
3.71	+/-0.030	3,70	-		V	
0.400	+/-0.010	.400			V	
2.600	+/-0.010	2.600	_		V	
3.00	+/-0.030	3.00	-		√	
0.125	+/-0.010	7			V	
ART B.						
1.00 "		0.999"				
1,25"		2.35"			-	
0.75"		6,758				
		DL	13/12/03			
			·			
				· · · · · · · · · · · · · · · · · · ·		

Measured by:	1 _e	Audited by:	Dh.		Preliminary Approval:	
Date: 13	12.01	Date:	13/12/0	2	Date:	
	<u></u>	L	-t			

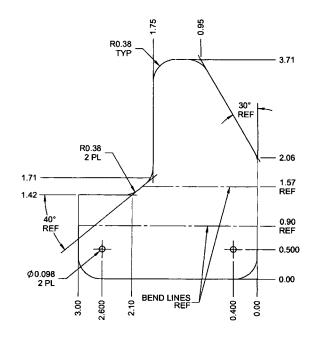
Rev	Date	Change	Revised by	A	Approved
Α	13.03.04	New Issue	KJ 7	7	
		·	į	/	





2.05 3.71 -30° TYP, REF R0.38 TYP 2.06 1.57 REF 0.90 Ø0.098 REF 2 PL 0.500 0.00 BEND LINES 0.400 2.600 0.00 3.00

⚠ D3139-1F GUARD FLAT PATTERN



D3139-3F GUARD FLAT PATTERN

NOTES:
1) MATERIAL: 9034 CLEAR LEXAN SHEET (SMOOTH TEXTURE), 0.125" THICK REF. DART SPEC. MLEXS.125-9034-01
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: 0.05 lbs

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DESIGN DRAWN DRAWING NO. CHECKED REV. C D3139 MFG. APPR. SHEET 3 OF 3 TITLE APPROVED SCALE **GUARD** DE APPR. NTS COPYRIGHT © 2002 BY DART AEROSPACE LTD
off is reviate and coresponting with supplied on the supplied on the DATE 11.01.07